FIG.1

FIG.2

FIG.3

FIG.4

SCRAMBLING CODE LAYER

#0

#1

#2

ORTHOGONAL CODE
SET OF MULTI-SF

SPREADING CODE LAYER

FIG.5

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SCRAMBLING CODE PERIOD

BASE STATION A

BASE STATION B

BASE STATION C

FIG.6

FIG.7

SCRAMBLING CODE PERIOD

MASKED SYMBOL

MASKED SCRAMBLING CODE

COMMON SPREADING CODE

SPREADING CODE PERIOD

FIG.8

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RANKING ACCORDING TO
NUMBER OF REPORTS

RANKING	Code#	PHASE
1	05	02
2	31	94
3	01	15
4	44	07
5	64	96
.	.	.
.	.	.
.	.	.

PERCH

PERCH

PERCH

PERCH

PERCH

PERCH

BS#	Code#	PHASE
1	01	16
2	05	01
3	15	64
4	31	94
5	44	08

MEASURED RESULT BY
MOBILE STATION

FIG.9

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NOTIFY VISITING MOBILE
STATION OF NEIGHBORING
BASE STATION INFORMATION

AT FIXED
INTERVALS

RECEIVE REPORT
FROM MOBILE
STATION

STANDBY

REARRANGE NEIGHBORING BASE
STATION INFORMATION

EXTRACT BASE
STATION INFORMATION

UPDATE NUMBER OF
REPORTS PER
BASE STATION

FIG.10

NOTIFY VISITING MOBILE STATION OF NEIGHBORING BASE STATION INFORMATION

REARRANGE NEIGHBORING BASE STATION INFORMATION

AT FIXED INTERVALS

RECEIVE REPORT FROM MOBILE STATION

STANDBY

EXTRACT BASE STATION INFORMATION

HANDOVER TAKES PLACE

CAPTURE HANDOVER-DESTINATION AND ITS RESULT

UPDATE NUMBER OF REPORTS PER BASE STATION

FIG.11

RANKING	Code#	PHASE
1	05	02
2	31	94
3	01	15
4	44	07
5	64	96
.	.	.
.	.	.
.	.	.
N	198	55

NEIGHBORING BASE STATION
INFORMATION SENT FROM BASE STATION

RANKING	SEARCH PERIOD (SECOND)
1	1
2	2
3	4
4	8
5	16
.	.
.	.
.	.
N	64

CORRESPONDENCE TABLE
HELD BY MOBILE STATION

FIG.12

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FIG.13

GPS

TIME-BASED EXTERNAL SYSTEM

#1

#2

#0

TIME SHIFT

LONG CODE LAYER (SCRAMBLING CODE LAYER)

ORTHOGONAL CODE SET OF MULTI-SF

SHORT CODE LAYER

IINTER-BASE STATION SYNCHRONOUS SYSTEM

#1

#2

#0

RADIO CELL

LONG CODE LAYER (SCRAMBLING CODE LAYER)

ORTHOGONAL CODE SET OF MULTI-SF

SHORT CODE LAYER

INTER-BASE STATION ASYNCHRONOUS SYSTEM

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FIG.14

RADIO NETWORK CONTROLLER

RNC

D

C

B

A

PERCH CHANNEL

PERCH CHANNEL

PERCH CHANNEL

UPLINK CONTROL CHANNEL

1

FIG.15

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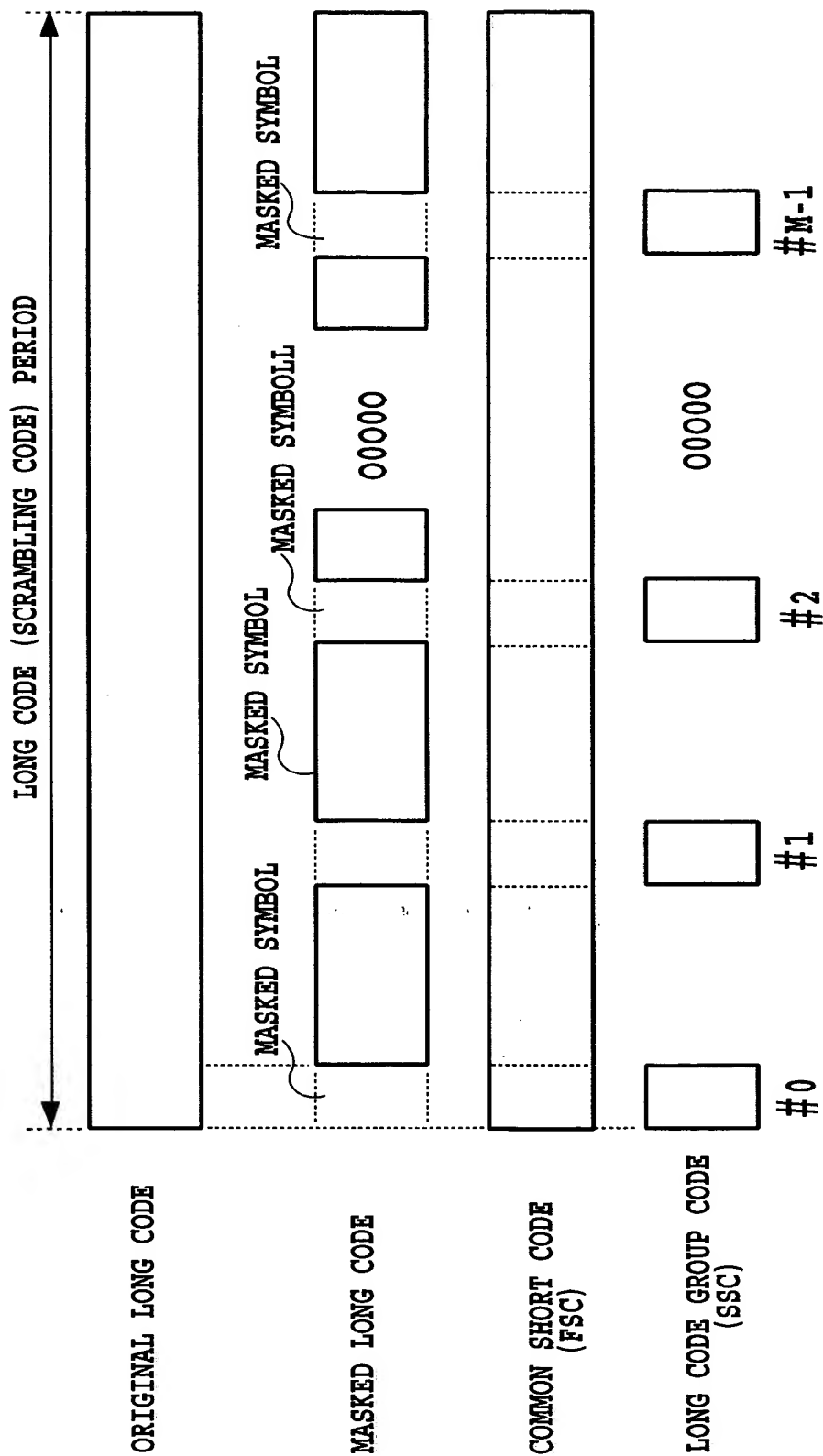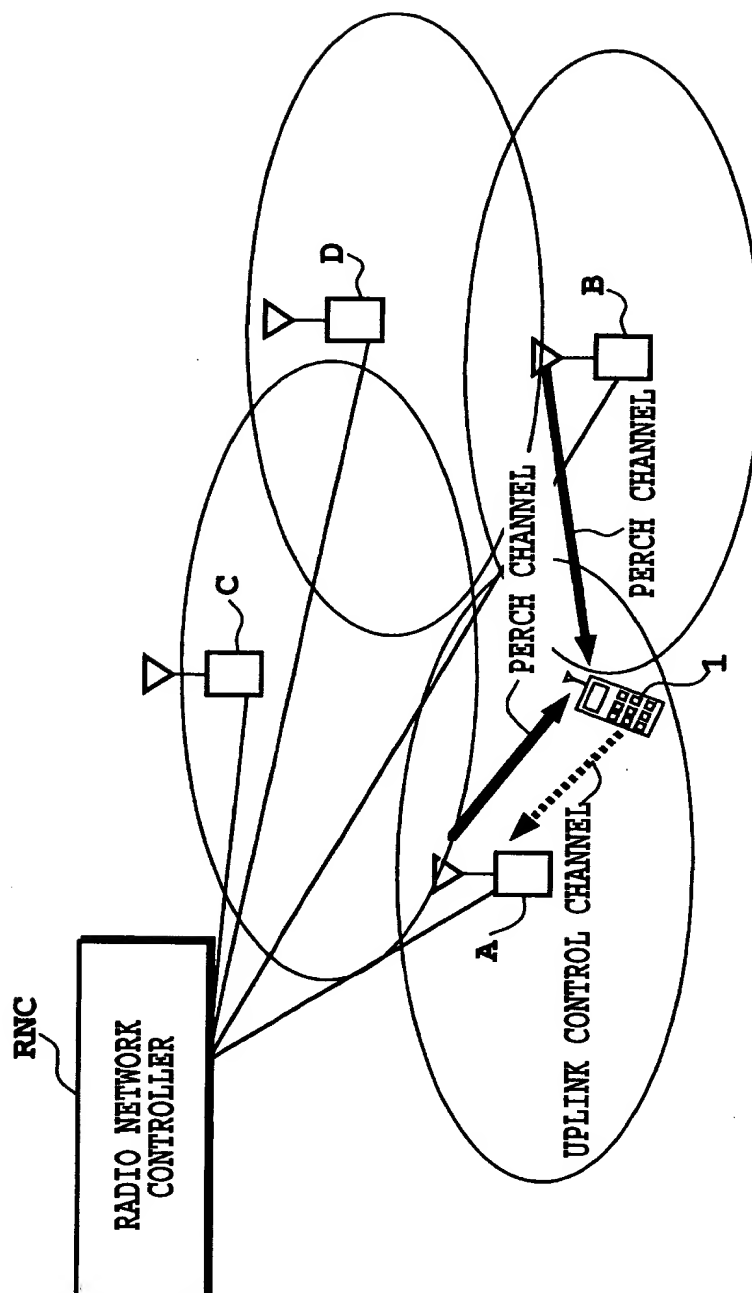
MANAGEMENT TABLE
(STORING LONG CODE PHASE INFORMATION)

LONG CODES OF NEIGHBORING BASE STATIONS	LONG CODE PHASE DIFFERENCE INFORMATION
1101001100 ···	Δ1
1101000011 ···	Δ2
1101001010 ···	Δ3
1101001111 ···	Δ4
1101000000 ···	Δ5
1101000001 ···	Δ6
⋮	
1101001011 ···	Δ (N−1)
1101001001 ···	ΔN

FIG.16

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FIG.17

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LONG CODE RELATIVE PHASE DIFFERENCE

3

SERIAL SEARCH CIRCUIT
(FOR Nc SCRAMBLING CODES);

4

3-STEP CELL SEARCH CIRCUIT USING
SCRAMBLING CODE MASKED SYMBOL
(FOR CODES WHOSE PHASE DIFFERENCES
ARE NOT REPORTED OTHER THAN
Nc SCRAMBLING CODES)

7

COMPARING
CIRCUIT

5

MEMORY CIRCUIT FOR STORING TYPES
OF Ns SCRAMBLING CODES (BS USING
THE CODES) TO BE SUBJECTED
TO CELL SEARCH BY MOBILE STATION

6

MEMORY CIRCUIT FOR STORING TYPES OF
Nc SCRAMBLING CODES
(BS USING THE CODES)
WHOSE RELATIVE PHASE DIFFERENCES
ARE REPORTED FROM BS THAT
WAS CONNECTED WITH RADIO LINK

Ns: NUMBER OF BASE STATIONS TO BE SEARCHED BY MOBILE STATION;
Nc: NUMBER OF BASE STATIONS WHOSE RELATIVE SCRAMBLING CODE PHASE
DIFFERENCES ARE REPORTED FROM BASE STATION THAT WAS CONNECTED WITH RADIO LINK

FIG.18